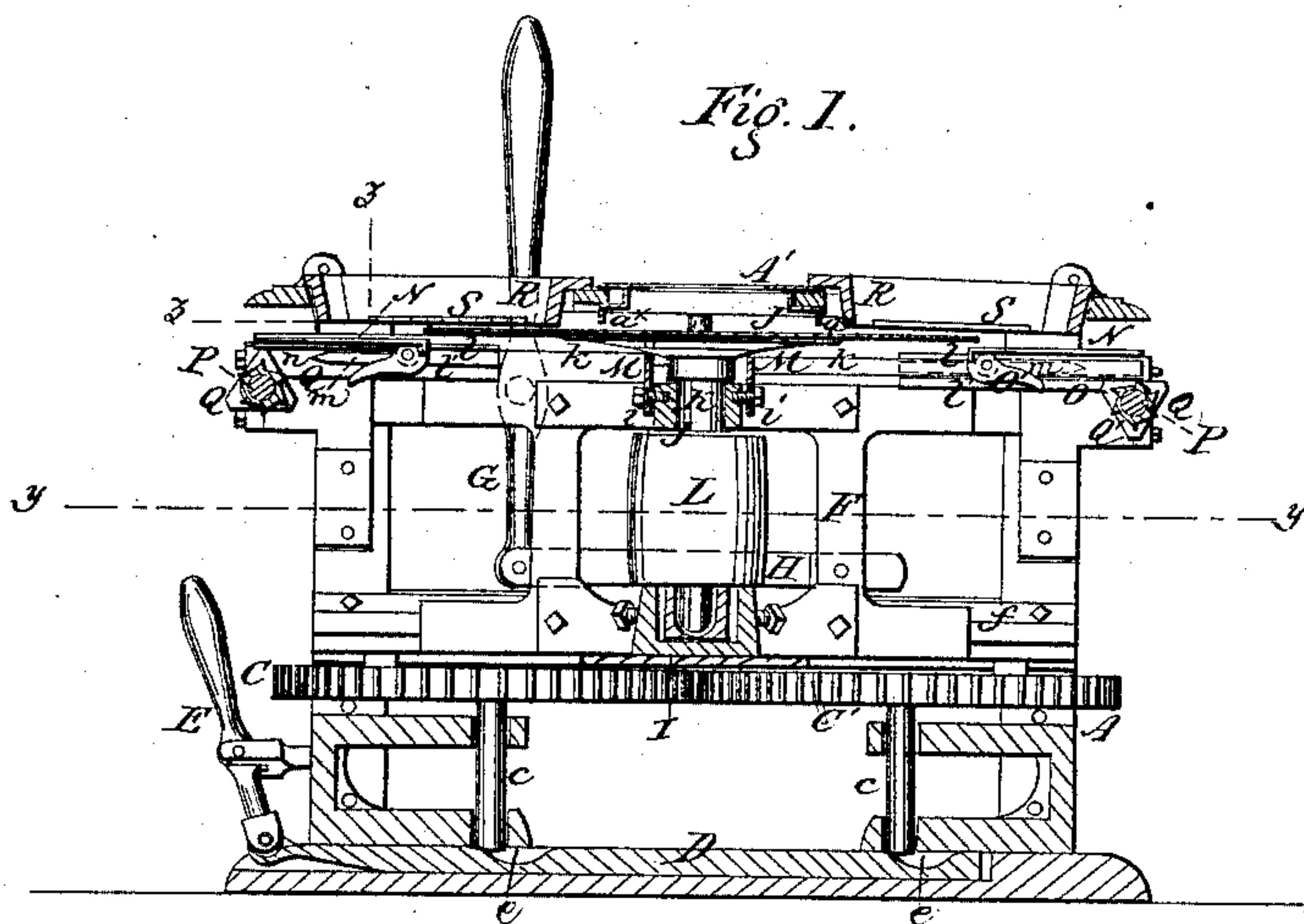


W. H. Walker,  
Sawing Shingles.

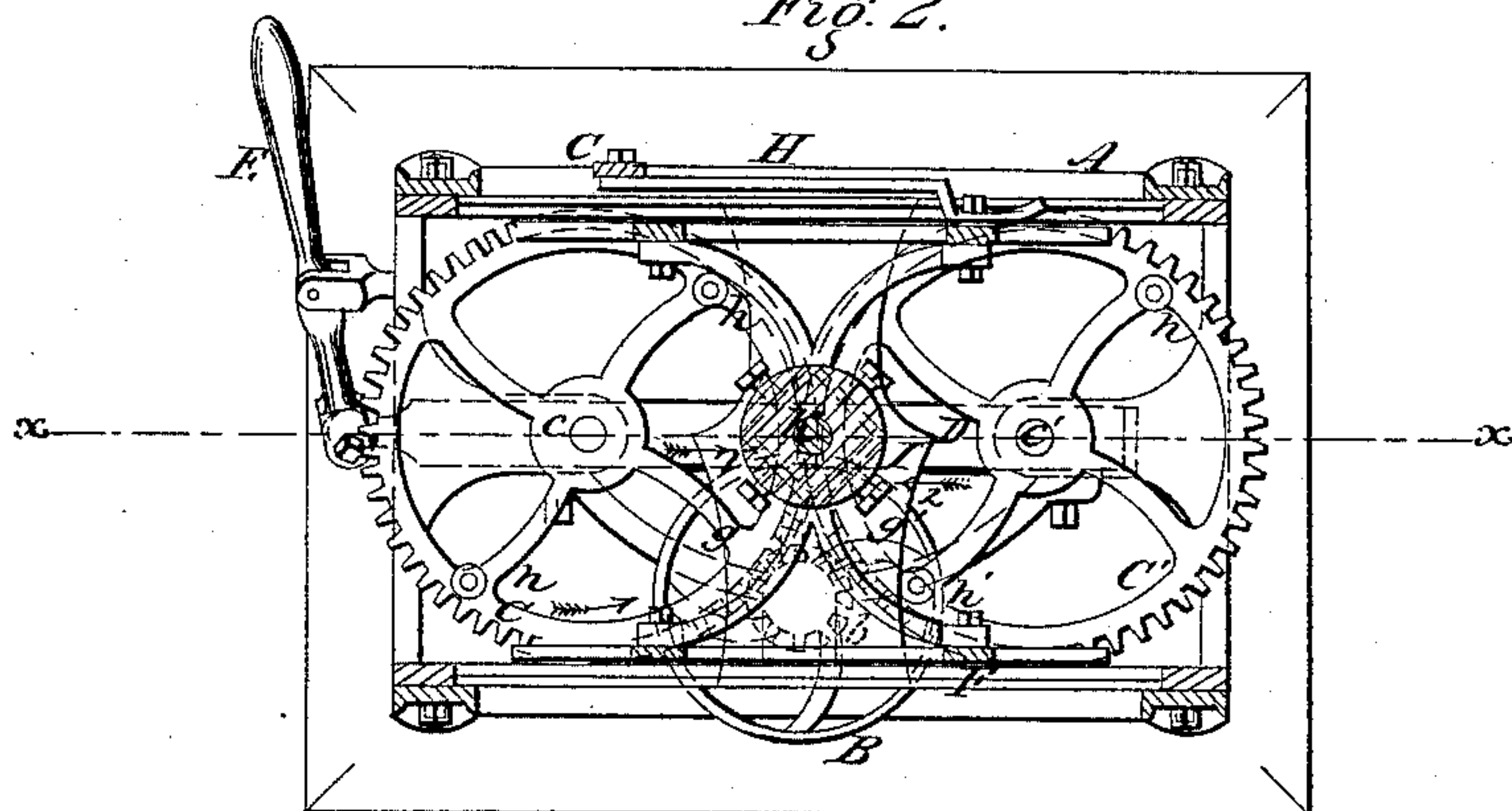
*N<sup>o</sup> 4,552.*

*Patented Feb. 9, 1864.*

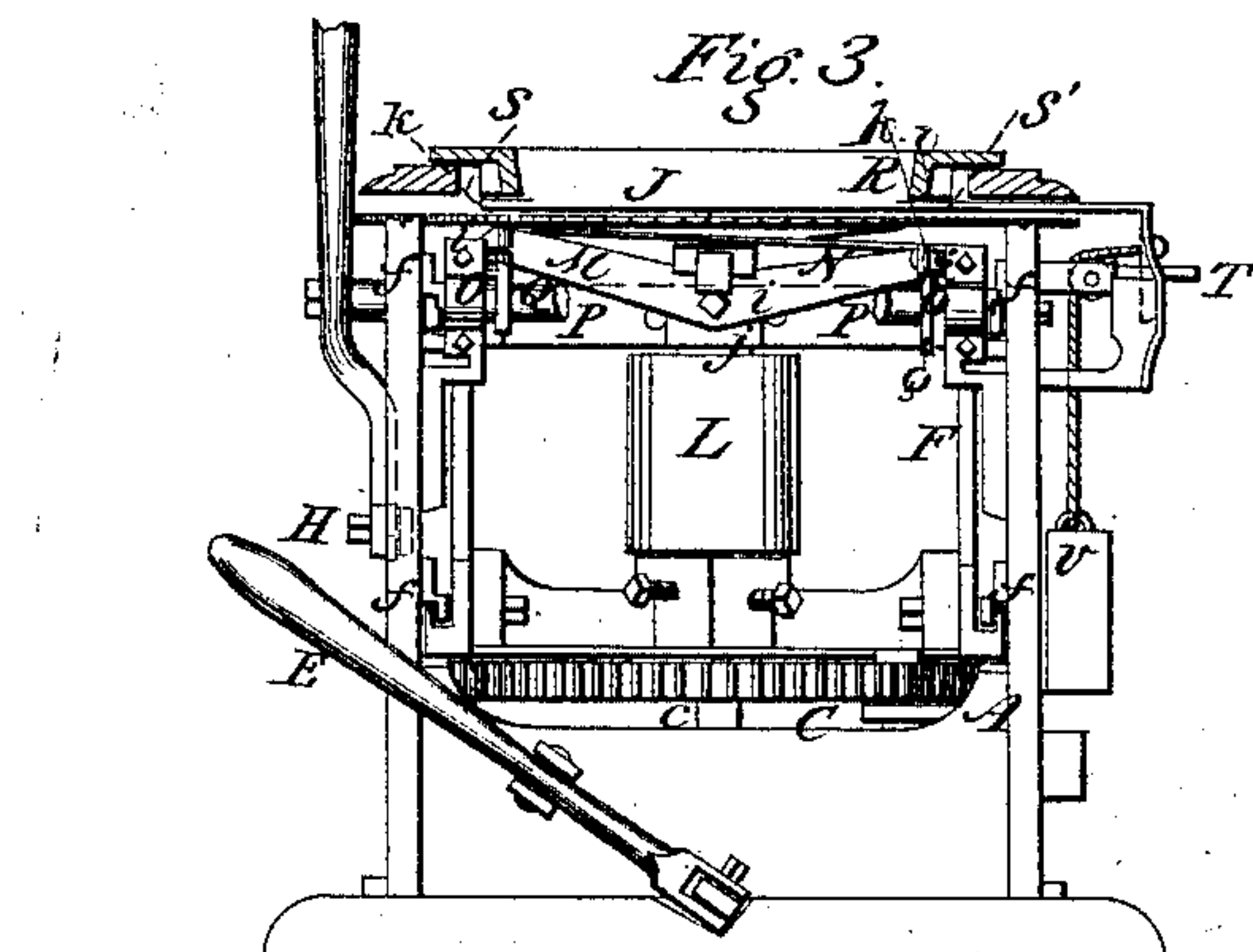
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Witnesses:*

Jobbins  
C. W. Reece

*Inventor.*

Wm. H. Walker  
per Munnell  
attys



# UNITED STATES PATENT OFFICE.

WILLIAM H. WALKER, OF FOND DU LAC, WISCONSIN.

## IMPROVEMENT IN SHINGLE-SAWING MACHINES.

Specification forming part of Letters Patent No. 41,552, dated February 9, 1864.

*To all whom it may concern:*

Be it known that I, WILLIAM H. WALKER, of Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented a new and Improved Shingle-Machine; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a horizontal section of the same taken in the line *y y*, Fig. 1; Fig. 3, an end view of the same with the upper part in section, as indicated by the line *z z*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and improved shingle-machine of that class in which saws are employed for cutting the shingles from the bolt.

The invention consists in an arrangement whereby a circular saw in horizontal position is moved to and fro between two stationary bolt-holders, thereby obviating the necessity of moving the bolts and securing constant action of the saw in one bolt or the other, and reducing the machine to the smallest possible compass for plurality of bolts; and in an arrangement whereby the shelf or apron upon which the bolt drops to be adjusted for the saw is driven from under the bolt to allow the shingle to drop when sawed; and in a novel way of lifting the bolt not being acted upon from the saw; and in an arrangement whereby the feeding device may be worked automatically or by hand, as may be desired, for soft or hard timber.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a rectangular framing, which may be constructed in any proper way to support the working parts of the machine. B represents a driving-pulley, which is placed on an upright shaft, H, in the lower part of the framing A, said shaft having a pinion, *b*, upon it which gears into a wheel, C, placed on an upright shaft, *c*, in the lower part of the framing A. The wheel C gears into a similar wheel, C', and the shaft *c'* of the latter, as well as the shaft *c* of wheel C, rest on a bar, D, which is fitted horizontally in the base *d* of the

framing and allowed to slide thereon to a certain extent, said bar being moved or operated by a lever, E, attached to the framing. The bar D has two concave recesses, *e e*, made in it, which, when the bar D is moved or adjusted so as to bring said recesses in line with the shafts *c c'*, will let the latter down a trifle. These recesses are shown clearly in Fig. 1, and it will be seen that when the bar D is moved or adjusted so as to throw the recesses *e e* out of line with the shafts *c c'* the latter will be raised a trifle, the length of the movement of said shafts being equal to the depth of the recesses *e e*.

F represents a sliding frame, which is placed within the framing A and arranged to work horizontally on suitable guides or ways *f*. (Shown in Fig. 3.) This frame F has a lever, G, connected to it by a rod, H, and to the bottom of the sliding frame F there is secured transversely a horizontal plate, I, the sides of which are of concave form, as shown at *g g'* in Fig. 2.

On each wheel C C' there are secured at opposite points two friction-rollers, *h h'*, and these rollers, in connection with the concave sides *g g'* of the plate I, communicate a reciprocating movement to the frame F, the rollers *h* of the wheel C acting against the concave side *g* and moving the frame F in the direction of arrow 1, and the rollers *h'* of the wheel C' acting against the concave side *g'* and moving said frame in the direction indicated by arrow 2. The rollers of each wheel C C' act alternately against their respective sides *g g'* of the plate I, and when this automatic movement of the frame F is not required the shafts *c c'* of the wheels C C', and consequently said wheels themselves, are lowered by moving the bar D so that the recesses *e e* will come in line with the shafts *c c'*. This downward movement of the wheels C C' brings the rollers *h h'* below the plate I, and consequently renders the frame F inoperative. The wheels C C' have motion communicated to them by the pinion *b* on the shaft of the driving-pulley B.

J represents a circular saw which is on the upper end of a vertical shaft, K, in the sliding frame F. This shaft K has a pulley, L, upon it around which a belt passes for driving or rotating the saw.

In the upper part of the frame F there are



placed two tilting frames, M M. These frames are each formed of a bar, I, pivoted at their centers to opposite sides of the upper bearing, *j*, of the shaft K, and at the ends of the bars *i* there are attached parallel arms *k k*, which extend outward at right angles from the bars *i i*, and are at the sides of the upper part of the frame F. The arms *k k* and bar *i* of each frame M may be formed all of one bar, or the arms *k* may be made separately and attached to *i*.

To the outer parts of the arms *k k* of each tilting frame M there is attached a horizontal plate, N, the sides of which extend down underneath the arms *k* and fit in grooves *l l'*, made in horizontal bars O, attached to the framing A. Each bar O has two grooves, *l l'*, made in it, one above the other, as shown in Fig. 1, the division strip *m* of said grooves being pointed at its front end, and the two grooves of each bar O terminating in one wide groove, *n*, at the front end of the division strip *m*. (See Fig. 1.)

Between the front ends of the bars O at each end of the framing A there is placed a horizontal shaft, P. These shafts have each a ratchet, Q, placed on them at their centers, and to the back part of each horizontal plate N, at the under side, there is attached a pawl, O'. At each end of the shafts P there are placed triangular cams Q', those on each shaft being so arranged that when a pivot or angle of one cam at one end of a shaft is uppermost the cam at the opposite side will have a point down and a flat side uppermost. These cams Q' Q' serve to tilt the frames M and incline the plates N, which is done at the termination of each movement of the frame F, in consequence of the pawls O' coming in contact with the ratchets Q, and turning the shafts P one-sixth of a revolution, the point of the cam which is turned upward striking the plate N above it and throwing its side upward in the wide groove *n*, in line with the upper narrow groove, *l*, in which groove the elevated side of the plate N enters, while its opposite and lower side enters the lower groove, *l'*, of its bar O. By this arrangement, therefore, the plates N are alternately tilted or inclined, first in one direction and then in the other.

On the framing A, at each end, there is placed a rectangular frame, R, and in these frames R the bolts from which the shingles are cut are secured by dogs S S', one at each side. The dogs S are permanently attached to the frames R; but the dogs S' are sliding ones, and are operated or forced outward by an arm, T, attached to the frame F, and brought back by a weight, U. This drawing out of the dogs S' releases the bolts and allows them to fall upon the plates N, when they are inclined by the tilting of said plates just before they are presented to the saw J by the movement of the frame F,

the bolts being dogged just after they are inclined by the action of the weights U or other equivalent device.

The bolts are raised from the saw at the termination of each movement of the frame F by means of a double sliding wedge, A', which is placed on the upper part of the framing A, between the two frames R R, as shown clearly in Fig. 1. This wedge A' is moved by the upper end of the saw-shaft K, which comes in contact with a projection, *a*<sup>x</sup>, at each end of the wedge, and shoves the latter underneath the frames R at their inner ends, thereby relieving the saw, during its backward movement, from contact with the bolts.

The frame F may, when the shafts *c c'* are dropped or lowered so as to free the rollers *h h'* from the plate I, be worked or operated by hand through the medium of the lever G.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The arrangement of a circular saw in horizontal position between two stationary bolt-holders or rectangular frames, R R, between which it is driven to and fro in the sliding frame F to cut a shingle at each reverse movement, in the manner herein explained.

2. The wheels C C', provided with friction-rollers *h h*, in combination with the plate I, and operating in the concaves G G, when arranged substantially as and for the purpose set forth.

3. The movable bar D, provided with recesses *e e*, and arranged, as shown, in relation with the shafts *c c'*, for the purpose of raising and lowering the same, to render the frame F automatically operative or inoperative, as may be desired.

4. The tilting frames M, arranged, as shown, on the frame F, and provided with the plates N, having pawls O' attached, in connection with the bars O, provided with the grooves *l l'*, and the shafts P, provided with the triangular cams Q' and ratchets Q, all arranged to operate as shown, for the purpose of inclining the bolts so that the shingles may be sawed in taper form and drop from their place.

5. The arms T, attached to the sliding frame F, in combination with the weight U, or its equivalent, for the purpose of operating the sliding dogs S', when used in connection with a circular saw mounted in a reciprocating carriage, as set forth.

6. The double wedge A', placed on the upper part of the framing A and arranged to operate by the movement of the saw-frame F, substantially as and for the purpose specified.

WILLIAM H. WALKER.

Witnesses:

JOHN H. GORES,  
T. D. POOLER.